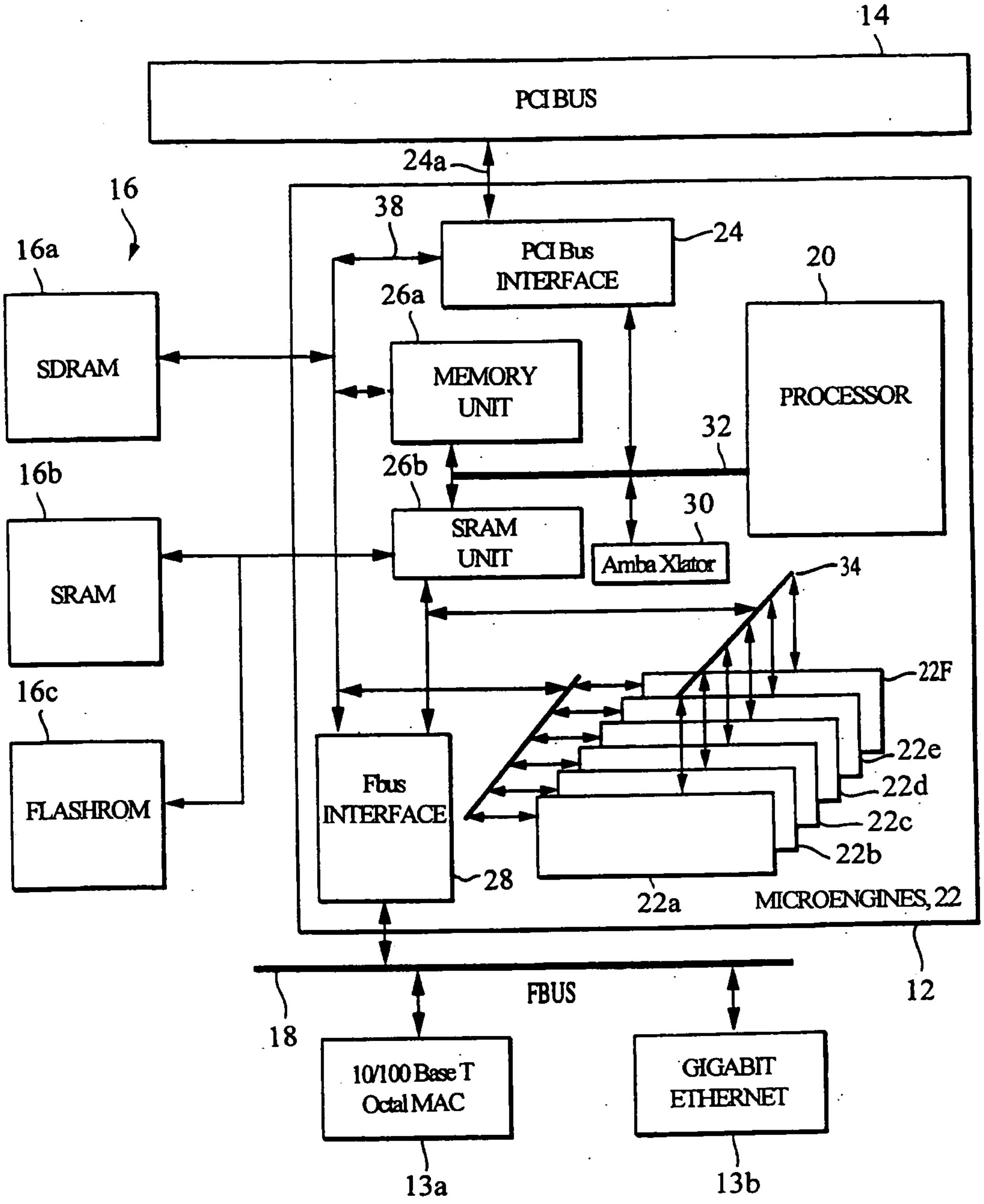
14
PCI BUS
24a
16
38
PCI Bus INTERFACE
24
20
16a
26a
SDRAM
MEMORY UNIT
PROCESSOR
32
16b
26b
30
SRAM
SRAM UNIT
Amba Xlator
34
16c
22F
22e
22d
FLASHROM
Fbus INTERFACE
22c
22b
28
22a
MICROENGINES, 22
12
FBUS
18
10/100 Base T Octal MAC
GIGABIT ETHERNET
13a
13b

FIG. 1

Replacement Sheet

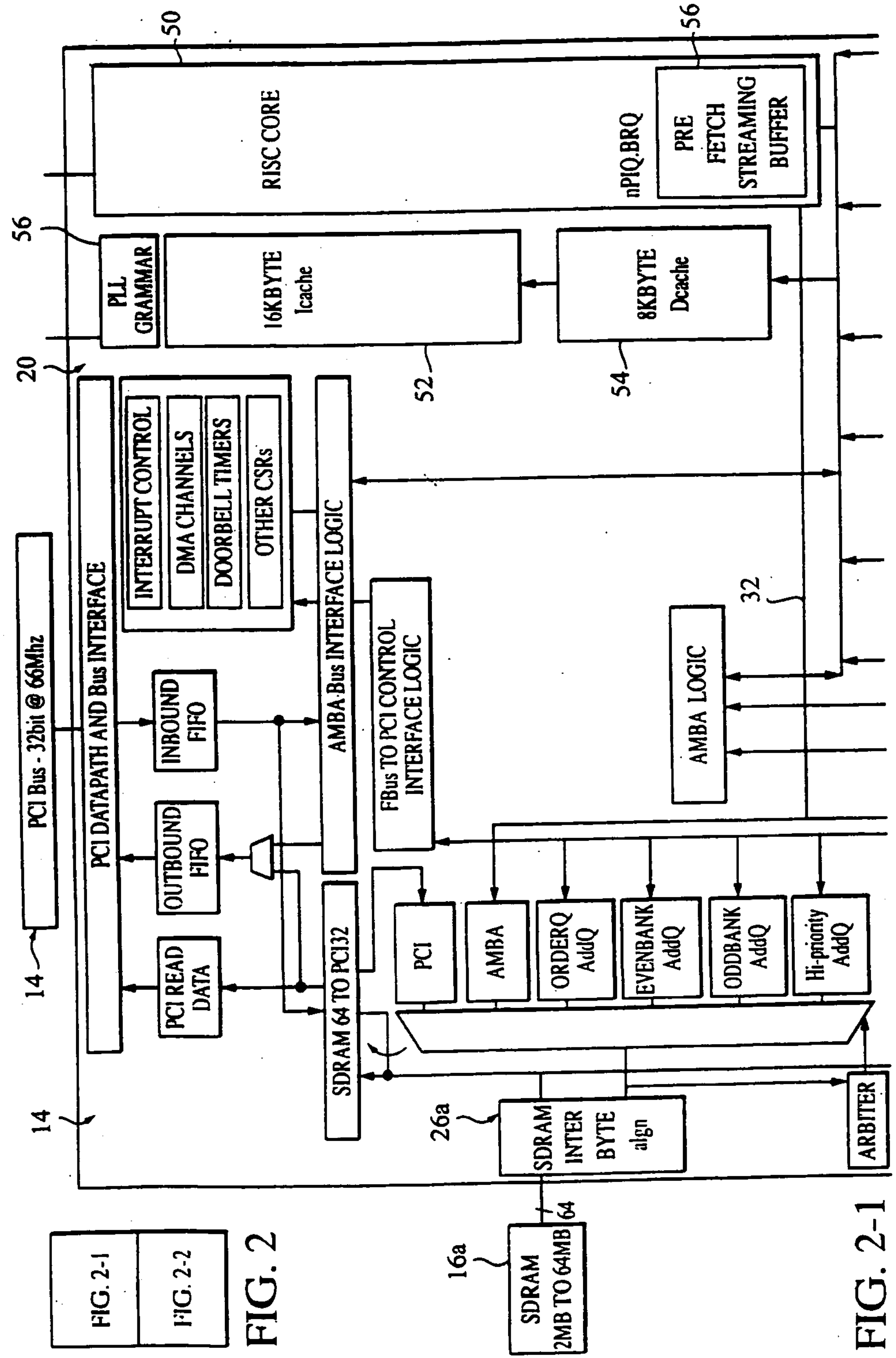

FIG. 2

FIG. 2-1

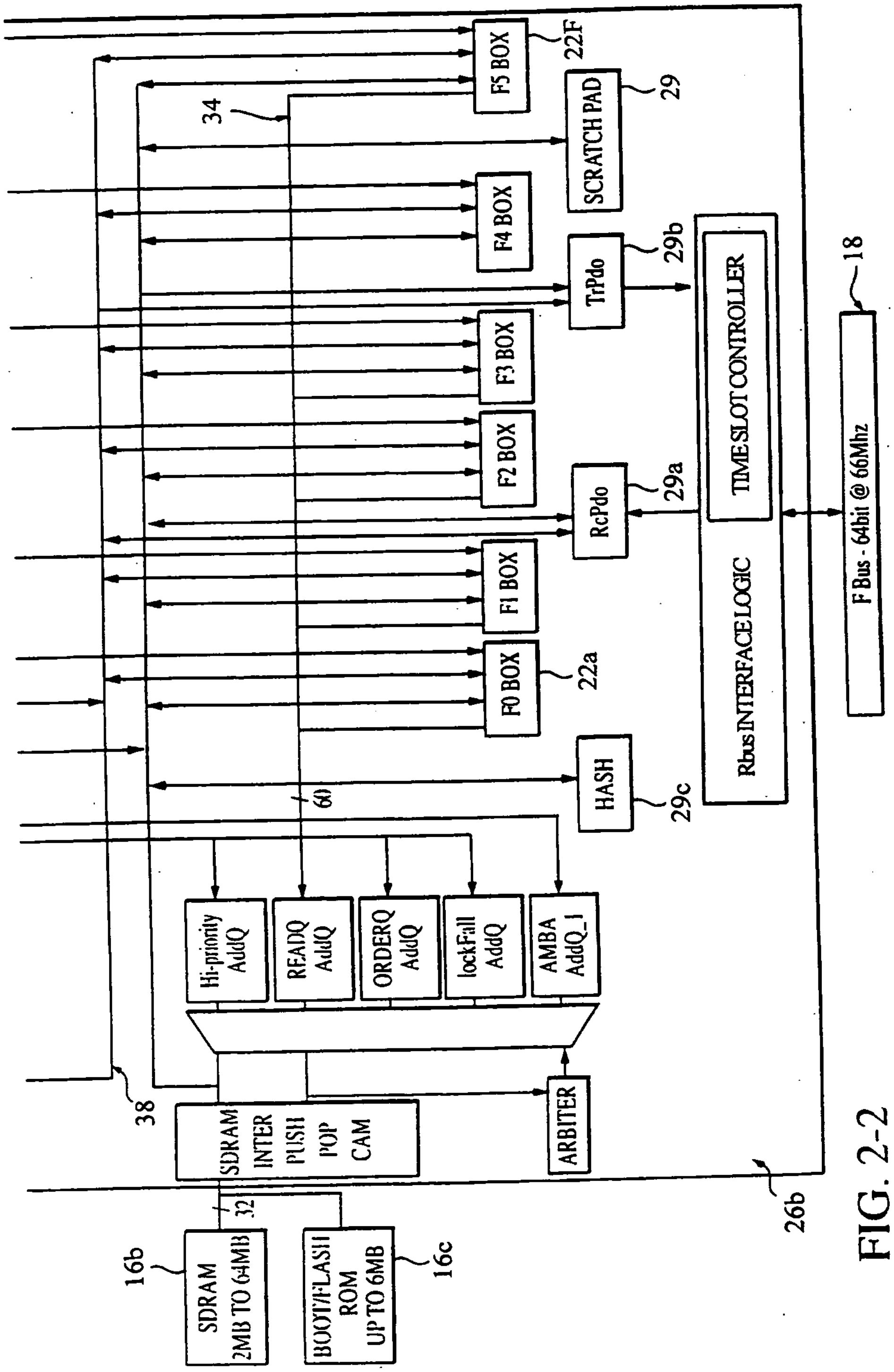
F5 BOX
22F
SCRATCH PAD
29
34
F4 BOX
TrPdo
29b
TIME SLOT CONTROLLER
18
F3 BOX
F2 BOX
RcPdo
29a
F Bus - 64bit @ 66Mhz
F1 BOX
Rbus INTERFACE LOGIC
F0 BOX
22a
HASH
29c
60
Hi-priority AddQ
READQ AddQ
ORDERQ AddQ
lockFail AddQ
AMBA AddQ_1
38
SDRAM INTER PUSH POP CAM
ARBITER
26b
32
SDRAM 2MB TO 64MB
16b
BOOT/FLASH ROM UP TO 6MB
16c

FIG. 2-2

Replacement Sheet

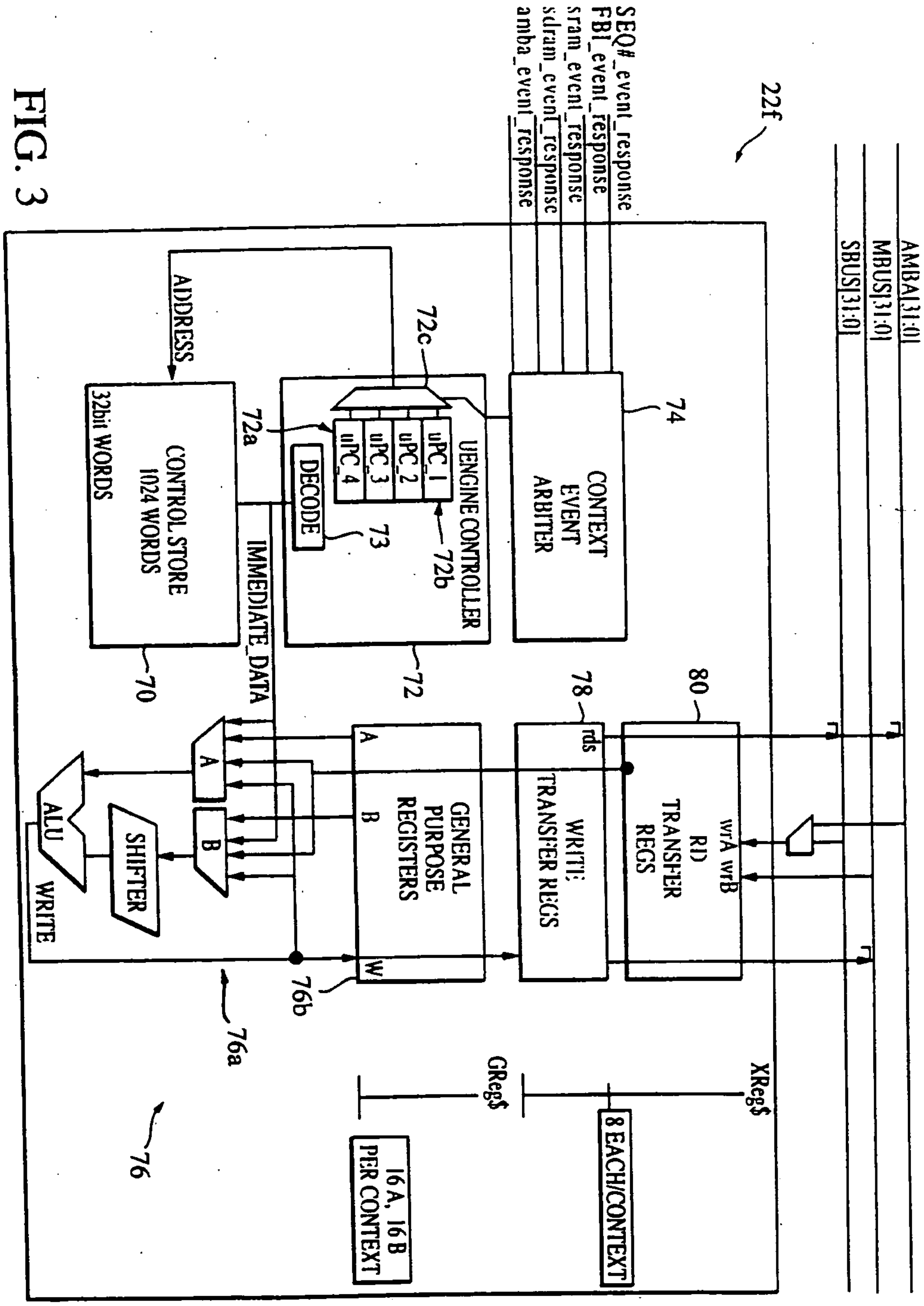

FIG. 3

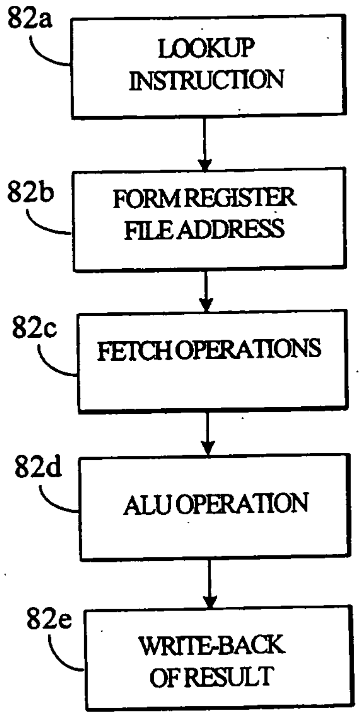
82a
LOOKUP INSTRUCTION
82b
FORM REGISTER FILE ADDRESS
82c
FETCH OPERATIONS
82d
ALU OPERATION
82e
WRITE-BACK OF RESULT

FIG. 4

ALU/SHIFT (set cc)

31	30	29	28 27	26 25 24 23 22 21	20 19 18	17	16 15 14 13 12	11 10 9 8 7	6	5	4	3 2 1 0
0	0	sw	shift	rel dest reg	amount	rs	A rel source	B rel source	ro	im	Bi	ALUop

ALU/SHIFT (set cc)

31	30	29	28 27	26 25 24 23 22 21	20 19 18	17	16 15 14 13 12	11 10 9 8 7	6	5	4	3 2 1 0
0	0	sw	shift	rel dest reg	amount		A rel source	B rel source		I	0	ALUop

ALU/SHIFT (set cc)

31	30	29	28 27	26 25 24 23 22 21	20 19 18	17	16 15 14 13 12	11 10 9 8 7	6	5	4	3 2 1 0
0	0	sw	shift	rel dest reg	amount		A rel source	immediate		I	I	ALUop

ALU/SHIFT (set cc)

31	30	29	28 27 26 25 24 23 22 21	20	19 18 17 16 15 14 13 12	11 10 9 8 7	6 5 4	3 2 1 0
1	0	0	dest reg	sw	A absolute source	IoB Abs Sec	Up B Srl	ALUop

Shift Decode:

(rs,r0) decode ([31:0] shifts into [63:32] and take [63;32]):

00 = left rotate
01 = right shift (32-ShfAmt = Right Shift Amt)
10 = left shift
11= double shift (upper A-op shifts into lower B-op)

===> "left rotate" of zero gives zero shift (therwise zero amount signifies indirect shift)

ALU-OP decode:

0000 = B	0100 = ~A&B (~and)	1000 = A-B	1100 = A+B(8)
0001 = ~B	0101 =XOR	1001 = B-A	1101 = A+B(16)
0010 = A&B (and)	0110 = OR	1010 =	1110 = A+B
0011= A&~B (and~)	0111= mul-stuff	1011=	1111= A+B+Cin

FIG. 5